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University of California Bulletin

THIRD SERIES. Vol. XI, No. 4

HOME ECONOMICS

INFORMATION FOR TEACHERS IN THE
SCHOOLS OF CALIFORNIA

OCTOBER, 1917

PUBLISHED BY THE
UNIVERSITY OF CALIFORNIA
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HOME ECONOMICS

The Department of Home Economics at the University of California desires and intends at all times to co-operate with those engaged in teaching this subject in the schools of the state. At the same time the department must satisfy the academic requirements of the University for the bachelor's degree. A careful survey of the relationship of the secondary school work to that of the University will show that there is every possibility for such co-operation if the admission requirements of the University, as stated in the Circular of Information for August, 1917, are thoroughly understood and complied with.

The aim of this statement, therefore, is to amplify and make clear to those wishing such information the requirements therein specified.

The present condition of Home Economics work done in secondary schools, so far as recognition by the University of California is concerned, is as follows: Of the 45 units required for matriculation, 9, or one-fifth of the whole, may be in Home Economics. The other units are divided thus: English must represent 6 units, or two-fifteenths of the whole; Mathematics, 6 units, or two-fifteenths of the whole; History, 3 units, or one-fifteenth of the whole; Foreign Languages, 6 units, or two-fifteenths; Natural Science, 3 units, or one-fifteenth; additional advanced work in Foreign Languages, Mathematics, or Natural Science, 6 units, or two-fifteenths; other allowed electives, 6 units, or two-fifteenths. It is thus possible for Home Economics matriculation credit to be presented in as large amount as any two subjects chosen from English, Mathematics, Foreign Languages, History, or Natural Sciences.

The reason for the limitation of credits from the so-called vocational subjects to 9 units, reckoned on the secondary school basis, is inherent in the nature of University degree work. The obvious fundamentals, without which constructive work cannot be undertaken in the University regardless of the curriculum chosen, are English, Mathematics, Foreign Language, History and Natural Sciences. In order that the minimum satisfactory training in these subjects shall be provided, at least 24 units must be specified. Of the 21 units remaining, 6 are required for "advanced" work in one of these fundamental subjects already mentioned. The secondary school student should, in the opinion of the University, have some acquaintance with the methods and the materials involved in the prosecution of at least one important study beyond the most elementary

stage. That this advanced work must be confined to the fundamentals, and not carried on in the Home Economics field, for example, is a requirement based again upon the assumption that university degree work must consist largely of such fundamentals, and only in the later years of the applications growing out of them.

Of the 15 units remaining as electives, 9 may be in Home Economics or similar fields, and 6 must again be chosen from the important subjects listed above. If all 15 units were to be chosen from vocational subjects, one third of the total preparation of the student for the University possibly might be devoted to material which is ordinarily not of direct academic value. This would result in an unfortunate loss of time for the student, brought about by the necessity for becoming familiar with the elementary parts of certain indispensable subjects during the valuable University years. Thus, for example, the ability to read such foreign languages as French and German should be part of the equipment of the entering first-year student, to be used as a tool in the study of the literature, history, or scientific contributions of the French and German nations. Such study is delayed or becomes impossible when the languages must be taken up for the first time in the University.

When the study of Home Economics is only begun in the secondary school, and continued in the University or in the intelligent experience of the university graduate, such a loss of time does not occur. No foundations are neglected if the Home Economics secondary school work is slighted, for the foundations concerned are embraced in the study of natural science and economics.

The problem of such intensive applied work for the girl who does not go on to the University is, of course, a totally separate problem upon which this discussion cannot touch. The girls preparing for the University may be divided into the two classes: those who go on with the study of Home Economics, or of *related subjects* in the University, and those who do not.

The two divisions of Home Economics, Household Art and Household Science, are so diverse in character that for the university student proper study of the one precludes anything but a cursory knowledge of the other. This is quite obviously and correctly not the case in the secondary school. If units are presented for entry to both divisions of the Home Economics Department, that one of them which is not to be pursued further in the University may preferably be given the extra year of work in the high school. For the student intending to major in Household Science extra credits in chemistry, physics, or physiology may well be considered more valuable than extra units from cooking or dietetics courses.

For the second class of students, those who do not take further work in Home Economics in the University, the case is merely negative.

If so generous an allotment as 9 units, or three years' work, is to be accepted, then some standard should be set for the character of that work, and good and bad secondary school courses should not be longer rated indiscriminately as of equal value.

The Circular of Information, page 90, under "Food Preparation," Subject 18*d*, gives the requirement for Household Science.

"The requirement represents at least a daily exercise during one or two school years, which falls within the last two years of preparation for college, and which is preceded or accompanied by such a course in Chemistry or Physics as satisfies the requirements of subjects 11 or 12*b*. A notebook (see under Physics) is required."

On page 66 recommendations for various curricula will be found. "Home Economics: leading to the degree of Bachelor of Arts in Household Science. Required: Group I, with Chemistry (12*b*). Recommended: Physics (11), Industrial Arts (18*d*, 6 units).

This requirement need in no way cause injustice to the student, since the natural sciences mentioned are part of the general admission requirements already in force. Thus that part of secondary school Home Economics work which is concerned with foods and cooking must be made to conform with a given standard in order to be accepted as admission credit. Other cooking courses naturally would be offered for younger students and for those whose desire or capacity does not include scientific training or entrance to the University. However, since such work is already being offered in most of the elementary schools, there would appear to be very little reason for including it in the secondary school schedule, if such inclusion means the exclusion of the scientifically directed courses described above.

The chemistry course acceptable as prerequisite to the accredited cooking course cannot be in the nature of a so-called domestic chemistry course, since here again the spirit of pursuit of fundamentals is not observed. The value of compromise courses of this character is debatable under any conditions, and their elimination from the secondary school curriculum is well worth considering. Their content may reasonably be included in the cooking course, if there be required a definitely outlined prerequisite course in those essentials of chemistry and physics which are now more and more closely drawn together in the best teaching.

For requirements on the Household Art side of Home Economics, reference should be made to the Circular of Information, page 66, under recommendations for various curricula.

Home Economics: leading to the degree of Bachelor of Arts in Household Art. Required: Group I, with Chemistry (12*b*) and Botany (12*c*). Recommended: Freehand Drawing (16), Industrial Arts (18*c*, 6 units). Page 61, Circular of Information:

MATRICULATION GROUP I

The minimum requirements for complete matriculation in the COLLEGE OF LETTERS AND SCIENCE and the COLLEGE OF COMMERCE are as follows:

ENGLISH, two years	6 units
(Subject 1.)	
MATHEMATICS, two years	6
Plane Geometry (2)* and Elem. Algebra (3).	
FOREIGN LANGUAGES, two years	6
Any one of, or any combination from, the following: Latin (6)†, Greek (8), French (15 <i>a</i>), German (15 <i>b</i>), Spanish (15 <i>c</i>).	
(See also subjects A and B under List of Preparatory Subjects.)	
HISTORY, one year	3
U. S. (5), or Ancient (10), or Medieval and Modern (13 <i>a</i>), or English (13 <i>b</i>).	
NATURAL SCIENCE (taken with laboratory work in classes of third- and fourth-year pupils), one year	3
Physics (11),† or Chemistry (12 <i>b</i>),† or Botany (12 <i>c</i>), or Zoology (12 <i>d</i>), or Physiology (12 <i>f</i>).	
ADDITIONAL	6
Any combination from the following:	
Advanced Mathematics (4 <i>a</i> , 4 <i>b</i> , 12 <i>a</i>).	
Additional foreign language, ancient or modern (6, 7, 8, 9, 15).	
Additional Laboratory Science taken in classes of third- and fourth-year pupils (11, 12 <i>b</i> , 12 <i>c</i> , 12 <i>d</i> , 12 <i>f</i>).	
ELECTIVE	15
(These may include not more than 9 units chosen from subjects 18 to 21 and high school subjects not listed by the University.)	
TOTAL	45 units

The candidate for admission must have chosen his preparatory subjects in such a way as to have a total of 12 units of "advanced" subjects. Advanced subjects are as follows: 4*a*¹, 4*a*², 4*b*, 5, 7, 9, 11, 12 (excluding

* The numbers in parentheses refer to the matriculation subjects listed on a preceding page; for example, 2 is plane geometry.

† The University does not offer courses equivalent to subject 6 (elementary Latin). This subject must be taken in the high school, if at all. Elementary physics and elementary chemistry are offered in the summer session of the University, but not in the fall or spring sessions.

sciences given in the first and second years of the high school), 13b, 14, 15a³, 15a⁴, 15b³, 15b⁴, 15c³, 15c⁴.

It will be seen readily that by a selection of alternatives students may, in covering the minimum requirements for entrance to the College of Letters and Science, by the same courses prepare for college work in specific subjects classed under Household Art, such as the Study of Textiles, for which Natural Science, Chemistry (12b) should be chosen, also Botany (12c), which may be included under "Additional Laboratory Science."

Of the 9 units allowed for electives it is recommended that 3 to 6 units (University units)* be offered in "Clothing" (18c) and "Shelter" (18c), Circular of Information, page 90.

18c. Clothing. (From 3 to 6 units.)

All study which may be classed under this heading, whether of garment-making or millinery, should be based upon a careful study of the proportions of the figure to be fitted and of the principles of construction underlying the making of such garments, with emphasis upon the choice of texture and color in serviceable and suitable material. Emphasis should also be laid upon efficient workmanship in carrying out these processes.

This work should represent a daily exercise for two school years, preferably during the last two years of preparation for the University.

Elementary sewing courses should include practice in mending, in renovation of clothing, in preparation and care of household fabrics, in the making of underwear, simple dresses, and infant layettes, with consideration of the purchase of suitable material for all of these problems. A brief introduction to the study of fibers and their production should be correlated with the course in geography; especially should cotton and flax be considered with this course, since they constitute the materials chiefly used in elementary work.

Advanced sewing courses should include the principles of construction as applied to dressmaking: (1) through the skillful and appropriate use of ready-made paper patterns, (2) by problems in simple drafting of typical forms and the adaptation of these to other forms and to the prevailing style, (3) through practice in modeling on the form in tissue paper, cambric, crinoline or unbleached muslin, with careful study of the proportions of the figure to be fitted and the selection of suitable

* *Units of Credit*.—The amount of work represented both by preparatory or high school subjects and by the University courses is specified quantitatively. In the University a unit signifies one hour per week of recitation or lecture, with preparation therefor, during one half-year. A course of study taken in the preparatory school for one year at five periods per week is valued at 3 units. Laboratory hours not requiring preparation are estimated at a lower rate than recitations and lectures.

material for some of the models so designed to be carried out as finished garments. Silk and woolen materials should be used in many of these problems and discussion of them as the two remaining important fibers in commercial production and manufacture should be included.

Tailoring courses should include the cutting, inner construction, fitting and finishing with good technique of at least one street suit (a coat and skirt) preferably of wool, or a sport suit of wool.

18c. Shelter. ($1\frac{1}{2}$ units.)

Housing, separate and collective, with elementary problems in sanitation, house management and the choice and purchase of equipment.

The school work in textiles should always be given in connection with the sewing courses and should be chiefly concerned with the selection and choice of suitable materials for the purpose in hand, with explanation of their relative merits from the standpoint of fiber (cotton, flax, wool, and silk), texture, durability, modes of manufacture and the corresponding ratio in price as offered by the retail trade today. Simple chemical tests using common household acids and alkalis, as well as physical tests, should be given in order to distinguish these fibers in their purity, or adulteration for the sake of cheaper production.

The best use of material and the prevention of waste taught by problems in the care and renovation of garments and household fabrics is of the utmost importance, as is evidenced today in the industrial and economics experience of the nations at war.

The tailoring problem is of the utmost importance. It establishes a standard of workmanship and construction which ordinary sewing and dressmaking do not accomplish. Girls so equipped have an excellent foundation with which to meet these needs of every-day life, when leaving school, whether to become home-makers, business women, or teachers of this subject. If the procedure outlined in the foregoing quotation from the Circular of Information under "Advanced Sewing" is faithfully followed in secondary school courses, with the addition of tailoring problems for the mature students who intend to matriculate for a university course, we shall have as a result a good foundation upon which to build the college work in Original Costume Design, which can only be accomplished successfully after years of experience in drawing and designing with pencil and brush, as well as by the technical experience acquired through the handling of real materials in practical problems such as sewing, drafting, cutting, fitting, and finishing of actual garments.

The wise selection from and adaptation of ready-made paper patterns and of the styles offered by reputable fashion magazines furnish ample opportunity in school work for establishing standards of taste, common sense and distinction in dress.

Much might be accomplished in this connection by teachers who are familiar with the History and Art and of Costume by placing color reproductions of portraits by great masters on the walls of the classroom. These portraits might be used to illustrate the use and combination of fabrics of which the students will have learned the names and textures in their sewing and textile lessons. They may be used also to illustrate the types and styles of beauty which have become standards by which to measure the extremes of quality, and the good or bad taste resulting therefrom.

The present day magazines offer so many excellent reproductions that teachers may, with a very small outlay of money, provide themselves with such illustrative material. Much interesting material on the craftsman side of decorative art may be gathered by the teachers by visiting the museums of the Affiliated Colleges of San Francisco, Golden Gate Park, and the Oakland Museum on Lake Merritt.

A further choice of electives is recommended, namely, subject 17, Mechanical Drawing, and subject 16, Freehand Drawing. With the latter course, simple design in black and white and color, with problems of spacing, may well be included. Such problems should aim to cultivate in the minds of students the sense of proportion and of fitness, without which no good work can be accomplished in either elementary or advanced work.

The practical work of construction is simply another "medium" in which design may be expressed. These mediums, namely, drawing and construction, enrich one another infinitely, in fact, neither is complete without the other when the actual professional work of teaching or designing is to be undertaken.

A correlation of these courses is most desirable, since they may become mutually helpful in high degree.

It is commonly understood by numbers of persons outside the University that no Household Art work is available during the first and second years. It is true that no work is so specified, but those years may be definitely filled with prerequisite work which not only is necessary for the Junior Certificate but which offers preparation in Drawing, Graphic Art, History, Economics, languages, all of which lead directly to the advanced work of the upper division and the graduate years in the History of Costume, Life Drawing, Original Costume Design in Materials, Textile Analysis, and all the courses which carry forward the study of "Housing" questions, viz., House Furnishing, Plumbing and Sanitation, and House Management.

A similar condition prevails with regard to lower division work in Household Science. As was shown at the beginning of this statement, courses in applied science must be either frankly didactic and utilitarian,

and therefore of a character suitable for presentation in the secondary school or industrial institutions; or they must be built upon a thorough training in the underlying sciences involved. Such thorough training can only be begun in the high school, and can scarcely be considered completed in the lower division of the University. If the university work in Household Science is to be of the latter variety, lower division courses in that department must be considered unnecessary and anomalous. The first two years of the student's residence at the University are, therefore, occupied with the indispensable study of courses in chemistry, bacteriology, physiology, and economics.

The following statements are quoted from the Circular of Information, pages 111-117, and the Announcement of Courses, pages 142-147, for 1917-18, concerning the work in Home Economics which may be undertaken in the University.

COLLEGE OF LETTERS AND SCIENCE

LOWER DIVISION

The work of the lower division comprises the studies of the freshman and sophomore years. The junior certificate marks the transition from the lower division to the upper division of the undergraduate course.

All candidates for the bachelor's degree in the College of Letters and Science must qualify for the junior certificate before proceeding to the upper division. Concerning upper division requirements, see Upper Division, in later pages of this circular.

Amount of Credit Required.—For the junior certificate, 64 units of university work are required, in addition to subjects A and B, and in addition to the 45 units required for matriculation, making a total of 109 units. A surplus matriculation credit does not reduce the amount of work (normally 64) required in the lower division, except under conditions specified in the section pertaining to surplus matriculation credit as given on page 70. These 64 units of lower division credit may normally be completed in two years, but students are required to remain in the lower division only until they are able to complete the requirements for the junior certificate. Students in the lower division may, with the approval of the study-lists committee, take as high as 19 units of university work per half-year, in addition to the prescribed courses in military science, physical education, and hygiene.

But the *number of units* which the student must average term by term, in order to complete in two years the work of the lower division, is sixteen. Regular students, then, ought not to take much less than sixteen units, and beginners should not attempt more without official advice.

Honorable Mention with the Junior Certificate: Candidacy for Honors.—

Honorable mention with the junior certificate is awarded to students who have attained at least second grade in forty-eight (48) units of their freshman and sophomore courses. The list of students who receive honorable mention with the junior certificate is published, and this list is sent to members of the faculty of Letters and Science and to prospective students of the junior class. A student whose name appears upon this list, unless he prefer not to enter for honors, should at the beginning of his junior year report immediately to the department of his major work. The department will advise him in the choice of his studies and will specifically approve all courses taken in the department. Concerning procedure in candidacy for honors, see Upper Division, in later pages of this circular.

Subject A, oral and written expression in English, is a requirement for junior standing in all colleges and courses at Berkeley, including the colleges of engineering and chemistry. It applies to students who graduate by the junior certificate plan as well as to those who graduate without the junior certificate. The requirement is additional to the "courses" or "units", in English and other subjects, tabulated below, and can be satisfied only by passing an examination. This examination is given each half-year shortly after the opening of the session. Every intransit admitted to regular first-year or second-year standing is required to take an examination in subject A during his first half-year. Failure to take the examination in subject A at the time required, or failure to pass, has the same effect upon the student's standing as a failure to pass in an ordinary course.

Subject B.—(a) For the Junior Certificate. The junior certificate will be granted only to such candidates as shall demonstrate their ability to read intelligently a piece of ordinary prose in French, German, Greek, Italian, Latin, or Spanish, and to render it into good English. Students should concentrate on one foreign language (the one needed in future work) and should make use of this language as soon as possible. This requirement, like subject A, is not to be satisfied by the mere completion of courses or units; it may be satisfied only by passing an examination set by a university committee. This requirement is known as "Subject B." Students who have entered the University from institutions in a foreign country, in which the language of instruction is other than English, may, at the discretion of the Committee on Credentials, be permitted to substitute for the regular examination in subject B an examination which shall consist of translation into the language in which their preparatory training has been received of a passage of English or a passage of French, German, Greek, Italian, Latin, or Spanish.

(b) For Honors. Each department is authorized to require of students who wish to be candidates for honors in that department, in addition to the prerequisites for specific courses, a reading knowledge of one of the foreign languages mentioned in the preceding paragraph. Individual instructors may make such further language requirements for specific courses as they deem wise, but such requirements shall be explicitly stated in the Announcement of Courses.

All *matriculation deficiencies* must be removed before the student leaves the lower division. Students who do not take military science, physical education, or hygiene must make up the deficiency in hours in other departments of study.

1. *Matriculation*.—The candidate for admission must have chosen his 45 units in such a way as to have a total of 12 units of subjects designated as "advanced," including one of the following sciences, if taken with laboratory work, in the third or fourth year of the high school course: physics, chemistry, botany, zoology, physiology. Students who enter the University without the required work in science may remove this deficiency only by taking additional work in science after admission; a matriculation deficiency in chemistry or physics can be made up in the University only during the summer session. The preparatory subjects listed as "advanced" are 4, 5, 7, 9, 11, 12 (excluding the sciences of the first and second years of the high school), 13*b*, 14 15*a*¹, 15*a*⁴, 15*b*², 15*b*⁴, 15*c*³, 15*c*⁴.

Of foreign language (Greek, Latin, German, etc.) the student must have credit for 12 units, unless he has credit also for intermediate or advanced mathematics or surplus advanced science, in which case not to exceed 6 units of such work in science or mathematics or a combination of the two may be substituted for an equal amount of foreign language.

Applicants who expect to take up courses of study presupposing a knowledge of the elements of physics or chemistry, with laboratory practice (matriculation subjects 11, 12*b*), should take this work either during the high school course or during the university summer sessions. No equivalent for this work is offered during the regular sessions of the University. Applicants for courses of study requiring matriculation Latin, subject 6, should notice that the University does not offer instruction in this subject in any session. See Recommendations for the Various Curricula, under Admission Requirements, above.

2. *Plan A*.—The requirements in mathematics and logic are as follows: A total of 12 units in mathematics, or in mathematics and logic, with the following restrictions: there must be a minimum of 6 units of mathematics for matriculation (subjects 2, 3); those who enter the University with but 6 units of mathematics must complete the required 12 units

by taking either 6 units in mathematics alone, or 6 units in logic alone; those who bring more than 6 and less than 12 units of mathematics for matriculation may complete the required 12 units either in mathematics, or in logic, or in a combination of the two. For students who in any half-year complete a five-unit lower division course in mathematics, the prescription in mathematics is reduced by one (1) unit for each five-unit course so taken.

3. *Plan B.*—Students in this group must have credit for 12 units in mathematics, without alternative for any part thereof. For students who in any half-year complete a five-unit lower division course in mathematics, the prescription in mathematics is reduced by one (1) unit for each five-unit course so taken.

Home Economics.—Students who intend to do advanced work in Household Art should have completed the requirements for the junior certificate in the College of Letters and Science, including matriculation subjects 18c and 18e or their equivalents, and botany, chemistry, and drawing (subjects 12c and 12b and 16), Graphic Art 6, History 1A-1B, Economics 1A-1B. Courses recommended: Chemistry 1A-1B and Graphic Art 14A-14B, Architecture 5, Political Science 1A, 1B, Drawing 9. Students who intend to specialize in house furnishing should take in addition Drawing CD; Drawing 3A, 3B, and 3C are recommended. Students who intend to specialize in scientific study of textiles should take Chemistry 1A 1B.

To enter on advanced work in Household Science the student should have completed the requirements for the junior certificate in the College of Letters and Science, including matriculation subject 18d, Chemistry 1A-1B, 5, 8A-8B; Economics 1A-1B. Political Science 1A, 1B, Physiology 1, and Bacteriology 1 are strongly recommended.

See Junior College Bulletin of the University of California for suggested schedules of Home Economics.

UPPER DIVISION

Students will not be registered in the upper division until all matriculation and lower division requirements have been completed.

The minimum requirements for graduation which must be satisfied by all students during their residence in the upper division are as follows:

1. Except as provided below, the work of the upper division must be extended over a period of not less than two years' residence.* Two summer sessions are equivalent in point of residence to one half-year.

* This rule may, in exceptional cases, be set aside; but only on condition that the student devote more than four years to the completion of the undergraduate curriculum. The requirement of two years of residence in the upper division does not apply to students who receive honors at graduation.

Study-list limits per half-year in the upper division, 12-16 units; summer session, 4-6 units.

2. The amount of work done by each student must be sufficient, when added to that already completed by him in the lower division, to amount to 124 units.

3. At least 36 units of work must be done in major courses (i.e., in courses designated by the numbers 100-199), in any of the following departments:

Agriculture	Jurisprudence
Anatomy	Latin
Anthropology	Mathematics
Architecture	Mechanical and Electrical Engineering
Astronomy	Mining and Metallurgy
Biochemistry and Pharmacology	Music
Botany	Oriental Languages
Celtic	Palaeontology
Chemistry	Pathology and Bacteriology
Civil Engineering	Philosophy
Drawing and Art	Physical Education for Men
Economics	Physical Education for Women
Education	Physics
English	Physiology
Geography	Political Science
Geology and Mineralogy	Public Speaking
German	Romanic Languages
Greek	Sanskrit
History	Semitic Languages
Home Economics	Slavic Languages
Hygiene	Zoology
Irrigation	

4. At least 12 of the 36 units required under (3) must be taken in the major courses of a single department, exclusive of the departments of Agriculture, Mechanical Engineering, Mining, Civil Engineering, and Irrigation.

HOME ECONOMICS

MARY F. PATTERSON, Assistant Professor of Household Art.
 AGNES F. MORGAN, Ph.D., Assistant Professor of Household Science.
 JOSEPHINE E. DAVIS, M.A., Assistant Professor of Household Science.
 JOHN W. GILMORE, M.S., Professor of Agronomy.
 ETHEL E. TAYLOR, B.S., Instructor in Textiles.
 GERTRUDE PERCIVAL, A.B., Assistant in Household Art.
 EDITH L. BROWN, M.S., Laboratory Assistant in Household Science.

Two distinct courses of study are offered under the general head of Home Economics, one in Household Art and the other in Household Science. These two courses may be combined by the individual student with the consent of the department. Such a combination is often impracticable, however, on account of the prerequisite drawing and design on the one hand and the prerequisite chemistry on the other. Students who wish to enter upon either of these courses of study or upon a combination of the two are urged to include in their work for matriculation, elementary chemistry, freehand drawing, cooking, and sewing as described under subjects 12*b*, 16, and 18 in the Circular of Information, Academic Departments.

HOUSEHOLD ART

Students who intend to do advanced work in household art should have completed matriculation subjects 1*Sc* and 1*Se*, or their equivalents, and botany and chemistry. Lower division work at the University should include History 1A-1B; Economics 1A-1B; Household Art 122; Graphic Art 6. Courses recommended: Chemistry 1A-1B; Graphic Art 7 and 14A-14B; Drawing 9; Architecture 5; Political Science 1A, 1B; Philosophy 36A-36B. Students who intend to specialize in house furnishing should take in addition Drawing CD; Drawing 3A, 3B, and 3C are recommended. Such a course of study precedes training in the upper division for specialization in costume design and house furnishing.

Honor-students in the Upper Division.—Requirements for candidacy for honors in household art at graduation are as follows:

1. The creditable completion of 24 units of major work approved by the department.
2. The continuance of the honor-status, and the privileges and opportunities offered to candidates thereby, depends upon the ability of the student to do original and independent work and upon the maintenance of a high standard in all courses as well as in the special honor-work undertaken.

A reading knowledge of French, Italian, or German is most desirable. The artistic, historic, and economic aspects of "clothing" and "shelter" are possible fields for study. These fields may include the study of all

types of decorative and applied art, the materials used, and their past and present mode of manufacture, whether by hand or machine processes. Such research is admirable as a basis for graduate work leading toward a master's degree.

UPPER DIVISION COURSES

NOTE.—With course 194A-194B it is strongly recommended that parallel courses be chosen from the following group: Graphic Art 114A-114B, 127A-127B, 128A-128B. Students who intend to enter the Seminar in Costume Design, 294A-294B, should normally complete these courses, and 192A-192B, 193A-193B, 194A-194B, 197 and 198.

*192A-192B. Application of the Principles of Design and Proportion to Costume. Assistant Professor PATTERSON and Miss PERCIVAL.

Study of typical pattern forms; laboratory work in materials.

3 hrs., throughout the year; 1 unit each half-year. Th, 1-4. To precede or to be taken concurrently with course 193A-193B. Materials to be furnished by students. Prerequisite: matriculation subject 18c or equivalent.

193A-193B. The History of Costume. Assistant Professor PATTERSON.

Costume as pictured in the art of all ages, with a background of contemporary historical periods. Lectures illustrated with stereopticon. Students will be required to make a style book, and a fee of \$4 each half-year will be charged for the photographs so used.

2 hrs., throughout the year; 2 units each half-year. Tu Th, 10. Prerequisite: History 1A-1B (will not be required of students graduating in May, 1917 or 1918).

194A-194B. The History of Costume. Laboratory course.

Assistant Professor PATTERSON and Miss PERCIVAL.

Rendering of stuffs in pencil and color; original problems; analysis of styles from photographs and reproductions.

3 hrs., throughout the year; 1 unit each half-year. Sec. I, Tu, 1-4; Sec. II, W, 1-4. Prerequisite: Graphic Art 6, or equivalent. Course 193A-193B is required concurrently. Graphic Art 7 and 14A-14B are recommended.

195A-195B. House Furnishing.

Assistant Professor PATTERSON and Miss PERCIVAL.

4 hrs., throughout the year; 2 units each half-year. Lectures, M, 11; laboratory, M, 1-4. Prerequisite: Drawing CD, History 1A-1B, matriculation subject 18c. Architecture 110, Civil Engineering 125, and Household Art 160 and 198 should, if possible, precede or parallel this.

196. Teachers' Course.

Miss TAYLOR.

Lectures and discussion of methods.

2 hrs., first half-year; 2 units. Tu Th, 1. Conferences to be arranged. Prerequisite: senior standing.

197. Review and Discussion of Technique by Practical Problems.

Miss TAYLOR.

6 hrs., second half-year; 2 units. W F, 1-4. Prerequisite: approved high school courses in matriculation subjects 18c and 18c, or their equivalents, and course 198, or equivalent. Materials to be furnished by students. Recommended to be taken concurrently with course 196.

122. Textile Raw Materials.

Professor GILMORE.

Fibers of commerce, and those with commercial possibilities; the physical and chemical qualities and characteristics of fibers and their preparation for use on filatures, cordage and fabrics. Lectures and demonstrations.

2 hrs., second half-year. Tu Th, 9. Prerequisite: matriculation chemistry and botany.

198. Textiles.

Miss TAYLOR.

Evolution of the textile industries, manufacture of fabrics, analysis of fibers and fabrics, costs, garment construction.

8 hrs., first half-year; 4 units. Lectures, Tu Th, 9; laboratory, W F, 1-4. Prerequisite: course 122, Economics 1A-1B. Laboratory fee, \$1.50, covers cost of materials used for analysis and textile samples. Sewing materials to be furnished by students.

160. House Managment.

Miss TAYLOR.

Efficiency, service, convenience, economy, as applied in the house or institution. Lectures and discussions.

2 hrs., second half-year; 2 units. Tu Th, 9. Prerequisite: matriculation subject 18c or equivalent, Economics 1A-1B.

199. Honor Course.

The Staff.

Special reading will be assigned individually, according to the interest and preference of the student, and frequent conferences with the instructor will be arranged.

Credit, not to exceed 2 units either half-year, will be determined in advance for each student.

GRADUATE COURSES

The Practice of Teaching.

Opportunity for practice teaching under the direction of Miss Taylor will be available either half-year in connection with Education 201. Prerequisite or parallel: course 196.

*294A-294B. Seminar in Costume Design.

Assistant Professor PATTERSON.

(A) Original design in materials and color drawings for modern costumes. (B) Period costumes, accompanied by historical research. Materials to be furnished by the students.

6 hrs., throughout the year; 2 units each half-year. W, 9-12; F, 8-11. Outside reading required.

* Not given in 1917-18.

297. Advanced Study. Assistant Professor PATTERSON.
Hours to be arranged.
Allied courses which may be taken as major work in household art,
with the consent of the department.
- Graphic Art 114. (Advanced work in Freehand Drawing). Assistant Professor JUDSON.
- Graphic Art 117. (Advanced Color Study.) Assistant Professor NEUHAUS.
- Graphic Art 118. (Advanced Design.) Assistant Professor NEUHAUS.
- Graphic Art 127, 128. (Art Anatomy.) Mr. NAHL.
- Architecture 110. (Housing.) Assistant Professor HAYS.
- Economics 182. (The Household as an Economic Agent.) Associate Professor PEIXOTTO.
- Civil Engineering 125. (Plumbing, Heating, Ventilating, and Lighting.) Assistant Professor LANGEIER.

HOUSEHOLD SCIENCE

Students who wish to do advanced work in household science should have completed matriculation subject 18*d*. Courses in elementary and advanced cooking are not offered in the fall or spring sessions of the University; they may, however, be taken during the summer session. The lower division requirements are Chemistry 1A-1B, 5, 8A-8B; Economics 1A-1B. Political Science 1A, 1B. Bacteriology 1, Physiology 1 are strongly recommended. Such a course of study precedes training in the upper division for specialization in food economics or dietetics.

Honor-Students in the Upper Division.—Students who are eligible for the honor status are urged to enroll at the beginning of their third or junior year. The recommended sequence of courses for such students is as follows: third year, course 101A-101B, Biochemistry 101; fourth year, 120A-120B, 125 or 130, 199A-199B. Honors at graduation are awarded only on the basis of 24 units of major work and maintenance of the honor status is dependent upon the attainment of consistently satisfactory grades in other subjects, and of high credit in household science courses.

Laboratory Fees.—Courses 127, 130, 172 require a laboratory fee of \$5, of which \$2.50 is regarded as a deposit against breakage, the remainder after requisite deductions to be returned to the student at the end of the course.

Courses 101A-101B, 120A-120B, 125, 206 require a laboratory fee of \$10, of which \$5 is regarded as a deposit against breakage, and subject to the conditions mentioned above.

UPPER DIVISION COURSES

101A-101B. Food Economics.

Assistant Professor DAVIS.

The composition, transportation, and preservation of common foods with reference to public economy and conservation; individual selection and preparation of such food with reference to hygiene, nutritive value, flavor, and cost.

8 hrs., throughout the year; 4 units each half-year. Lectures, Tu Th, 9; laboratory or field work, Tu, 2-5; S, 9-12. Prerequisite: Chemistry 1A-1B, 8A-8B, matriculation subject 18d (4 units).

120A-120B. Dietetics.

Assistant Professor MORGAN.

The quantitative basis of dietetics established through typical experiments in food analysis and calorimetry, digestion experiments, respiration and dietary records, nitrogen and mineral balances; the chemistry and physiology of digestion and metabolism with emphasis upon energy relations; the application of these principles to practical feeding problems of the individual and the group.

8 hrs., throughout the year; 4 units each half-year. Lecture, Tu Th, 11; laboratory, M W, 8-11. Prerequisite: Chemistry 5; course 101A-101B, or Biochemistry 101 (5 units).

125. Quantitative Experimental Cookery. Assistant Professor DAVIS.

Practice in food preparation under controlled conditions, with quantitative analysis of the materials and products. Investigation of special problems assigned to individual students. This course is preparatory to research work in the food and nutrition field.

7 hrs., second half-year; 3 units. Lectures, W, 8; laboratory, M W, 9-12. Prerequisite: course 101A-101B; Chemistry 5.

126. Methods of Teaching Household Science.

Assistant Professor DAVIS.

Study of suitable equipment for teaching household science in elementary and secondary schools; planning of courses, and of single lessons; observations of classes; practice in public demonstrations of food preparation and classification.

4 hrs., first half-year; 2 units. Tu, 1, F, 1-4. Prerequisite: course 120A-120B, and at least 3 units of education.

127. Elementary Food Course for Advanced Students.

Assistant Professor DAVIS.

A critical and constructive review of technique for students planning to teach cooking in the secondary schools. Open only to candidates for the teacher's recommendation offering a major or minor in household science.

6 hrs., second half-year; 2 units. M W, 1-4.

* Not given in 1917-18.

130. The Nutrition of Development. Assistant Professor MORGAN.

The chemistry and physiology of ovulation, intra uterine development, lactation, and growth; normal and subnormal nutrition in infancy and childhood; practice in the solution of feeding problems.

5 hrs., second half-year; 3 units. Lectures, Tu Th, 9; laboratory, Th, 2-5. Prerequisite: course 120A, or Biochemistry 101.

*172. Dyeing and Textile Chemistry. Assistant Professor MORGAN.

The chemical examination of common textiles; a study of the chemistry of dyes and dyeing.

4 hrs., first half-year; 2 units. Lecture, Tu, 9; laboratory, M, 1-4. Prerequisite: Household Art 198, Chemistry 5.

199A-199B. Honor Course. The Staff.

Open only to candidates for honors; guidance for honor-students in the prosecution of special reading, laboratory or field work.

2 hrs., throughout the year, to be arranged.

GRADUATE COURSES

The Practice of Teaching Household Science.

Opportunity for practice teaching under the direction of Assistant Professor Davis will be available either half-year in connection with Education 201. Prerequisite or parallel: course 126.

206. Experimental Methods in Metabolism. —

Laboratory practice in the urine, blood, food and other analyses requisite for prescribed feeding in disturbed conditions of digestion and metabolism; metabolism experiments on animal and human subjects.

7 hrs., first half-year; 3 units. Lecture, M, 8; laboratory, M, 9-12; Th, 1-4. Prerequisite: course 120A-120B.

214. Research. Assistant Professor MORGAN.

The principles and methods of physical and biological chemistry applied to the investigation of problems concerned with food preparation and metabolism.

Hours and topics to be arranged, either half-year.

215. Special Studies.

Hours and topics to be arranged, either half-year.

216. Seminar. Assistant Professor MORGAN.

Recent advances in the chemistry of food and nutrition, metabolism, food economics, and dietetic therapy.

2 hrs., first half-year, to be arranged.

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SUPPLEMENT

The accompanying bulletin may be secured, free of charge, by applying to the Chairman of the Department of Home Economics of the University of California, Room 300, Home Economics Building.

The Circular of Information and Junior College Bulletin of the University of California may be had, free of charge, by applying to the Recorder of the Faculties, 204 California Hall.

The School of Education Announcement, which states the University requirements for the recommendation for the High School Teacher's Certificate, may also be had by applying to the Recorder of the Faculties.

The Announcement of Courses for 1917-1918, with description of courses given, may be secured by applying to the Associated Students' store on the University campus, enclosing 15 cents (announcement 10 cents, postage 5 cents).

It is essential that all teachers provide themselves with these publications, in order that they may wisely direct and advise high school students who wish to prepare for entrance to the University.

The Department of Home Economics also wishes to come into direct touch with teachers of this subject in the state. This end would be greatly facilitated if each teacher would send each year, in August, her name, address, the school where she is engaged, and the specific subjects taught, to the Chairman of the Department of Home Economics, Room 300, Home Economics Building, in order that such addresses may be frequently verified and may be available for the mailing of our bulletins from time to time.

MARY F. PATTERSON,

Chairman of Department of Home Economics,
Assistant Professor of Household Art,
University of California.

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